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EDITORIAL NOTE.

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CONTENTS.

1. CONSUMPTION OF GROCERIES. A Survey of Sales of Grocery Shops in 1942 and 1943. By T. Schulz 49
2. EXCESS PROFITS TAX AND POST-WAR RE-EQUIPMENT. By M. Kalecki 58
3. CINEMA DUTIES, CONSUMPTION AND PRICES. By P. Ady 62

CONSUMPTION OF GROCERIES

A SURVEY OF SALES OF GROCERY SHOPS IN 1942 AND 1943.

Rationing of essential foods has supplied the statistician with a convenient means for assessing individual consumption of specific foods from figures of retail turnover, as regards not only rationed but also certain unrationed foods. Especially useful in this respect are data of the turnover of grocery shops. Provided that the sample is large, the total number of rations sold in the shops will also indicate their total number of customers for unrationed items, since these two will tend to be identical. For a small sample, of course, the whole assumption would be fallacious, since the number of customers for foods rationed specifically, rationed by 'points,' and unrationed, may differ very widely for any individual shop.

For the last three years we have been fortunate enough to obtain figures of turnover of a large number of grocery shops, which cater for about two million persons per week, and we have thus been able to present once a year a picture of the trend of consumption of the main classes of groceries.[1] This time we can repeat that survey by means of a collection of data far more comprehensive than any that was available to us on previous occasions. Before now, our surveys had generally to be based on the turnover during one sample week in each month. This was quite a satisfactory method so long as the ration period for most

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[1] BULLETIN Vol. 3, No. 10; Vol. 4, No. 3 ; Vol. 5, No. 6.

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of the essential foods was a week. Yet as the weekly period was progressively superseded by the four-weekly period, it became impossible to consider any longer demand and supply during any one sample week as representative for the respective month, since now consumers' demand tended to be highest in the first week of the rationing period, while any sudden change in supply could drive up the purchases of a specific food in any of the four weeks. To some extent these difficulties could be obviated by calculating weekly averages with reference to half-yearly instead of monthly consumption. This, indeed, proved a useful means of bringing out trends of supply, but it did not always reveal much as regards trends of demand. In those instances where the weekly or monthly allowance per person had fluctuated widely during the six months under survey, the average weekly figure of purchases during that period would clearly have little bearing on the actual weekly purchases during any particular week, and, more especially, would convey no idea as to changes in marginal demand in response to changes in supply.

We have now obtained for the first time from all the shops of our sample the figures of turnover for every week of the year, stretching from January 1942 to January 1944. In order to give a fairly comprehensive idea of supply and consumption of the several kinds of groceries during these two years, we have used these data in three different ways. First, we have extracted the figures of average weekly purchases per person of the various items for six four-weekly sample periods, five of them separated from one another by about five-monthly intervals, and the sixth following immediately on to the fifth (Tables I and II). Further, we have surveyed changes in supply, connected mainly with changes in the rations of specific foods, and compared with them the corresponding changes in demand (Tables IV to VII). Lastly, we have averaged for the two years the half-yearly data of turnover, and calculated for each of these four periods the expenditure on the main classes of groceries, and the nutritional intake obtained for it, per person per week (Table VIII).

Table I deals with the actual purchases per person per week during six four-weekly ration periods, the first five of which do not include a general holiday. It also shows the average prices paid for the several kinds of food. Columns N and O of Table I set out the corresponding figures derived from the household accounts of 208 working-class families (968 persons) that were kept for the Institute of Statistics in June–July 1943.[1] Some of the figures given in Table I require qualification. Of the data referring to the turnover of the grocery shops, those for butter, margarine, cooking fat, ham, cooked meat, poultry and rabbits, eggs, cheese, milk, sugar, jam, and biscuits, can probably be taken as fully representative of average consumption per person per week. Bacon is a 'special line' of a considerable proportion of the shops, and the number of customers for this food seems to be nearly 10 per cent higher than for any other of the main rationed foods. Furthermore, the total quantities of turnover of bacon include bone and trimmings, which, on the average, are certainly not less than 10 per cent of the total.

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[1] *Cf.* BULLETIN Vol. 6, Supplement No. 6.

TABLE I

Consumption and Prices of Groceries (Per Person per Week)

	Sales of Grocery Shops												Institute Budgets	
	A	B	C	D	E	F	G	H	I	K	L	M	N	O
	1942		1942		1943		1943		1943		1943—44		1943	
	11.1—7.2		28.62—5.7		10.1—2.6		27.6—24.7		14.11—11.12		12.12—.8.1		June/July	
		d.		d.		d.		d.		d.		d.		d.
	Quan'y[1]	Price[1]	Quan'y[1]	Price[1]	Quan'y[1]	Price[1]	Quan'y[1]	Price[1]	Quan'y[1]	Price[1]	Quan'y[1]	Price[1]	Quan'y[1]	Price[1]
(*a*) *Fats* :														
Butter	2.0	19.0	2.0	19.2	2.0	20.6	2.0	20.4	2.0	20.6	2.0	21.0	2.0	19.6
Margarine	3.7	8.6	3.8	8.7	3.7	8.9	3.6	8.9	3.4	8.9	3.5	8.9	4.1	9.1
Lard	1.7	9.2	1.8	9.0	1.8	9.0	1.8	9.0	1.7	9.0	1.8	9.0	1.9	9.3
(*b*) *Protein Foods* :														
Bacon	5.0	18.7[2]	5.0	19.3[2]	4.9	21.1[2]	4.8	21.2[2]	4.6	21.1[2]	4.9	21.5	3.8	24.6[3]
Ham[4]	—	26.8	0.3	31.2	—	46.6	—	45.0	—	52.9	—	52.9	—	—
Cooked Meat	1.2	18.6	1.3	20.4	1.4	23.4	1.1	23.7	1.4	24.8	1.5	24.7	0.7	29.1
Sausages	2.2	10.5	1.8	12.6	2.2	12.7	1.8	13.9	2.2	12.7	2.2	13.1	3.5	13.3
Poultry & Rabbits	0.1	21.3	0.2	23.8	0.2	21.3	0.1	23.7	0.1	14.3	0.3	27.1	—	—
Eggs, shell	0.7	2.4	0.8	2.0	0.4	2.0	0.6	2.0	0.2	2.0	0.3	2.0	0.9	2.0
ditto, dried	—	—	0.7	1.8	1.1	1.8	1.0	1.3	1.2	1.3	1.6	1.3	1.1	1.6
Cheese[5]	3.0	13.4	3.8	13.0	4.5	13.0	3.1	13.1	3.0	13.1	3.0	13.1	2.8	13.1
Milk, tinned	0.1[6]	—	0.1[6]	—	0.2[6]	—	0.2[6]	—	0.2[6]	—	0.2[6]	—	0.1[6]	—
ditto, household	0.1	9.0	0.1	9.0	0.3	9.0	0.1	9.0	0.2	9.0	0.2	9.0	0.1	9.0
(*c*) *Carbohydrate Foods* :														
Sugar	8.0	3.0	9.6	3.0	8.0	3.0	12.2	3.0	9.9	4.0	8.9	4.0	9.2	3.1
Jam[7]	3.0	11.0	2.5	10.8	3.6	11.9	2.6	12.0	4.0	11.7	2.7	11.8	3.3	12.6
Cake	1.5	10.7	1.6	11.1	2.1	12.2	1.9	12.6	1.8	13.3	1.9	13.5	6.9[8]	11.1[8]
Biscuits	1.5	10.1	1.9	10.2	1.9	12.0	1.2	12.5	0.9	12.6	1.0	12.8	1.4	14.0
Flour	6.6	2.2	3.6	2.2	4.9	2.6	3.7	2.8	4.6	2.8	4.5	2.8	7.7	2.9
(*d*) *Tea* :	1.7	35.4	1.6	36.0	1.5	36.8	1.4	41.4	1.4	41.6	1.4	41.7	1.7	36.4

[1] The unit of Quantity is *number* for eggs in shell and dried ; *pint* for tinned and household milk, and *ounce* for all other items. The unit for which the Price is shown is *number* for eggs in shell and dried ; one *tin*, equivalent to four pints of skimmed milk, for household milk, and *lb.* for all other items.

[2] Including trimmings. [3] Excluding trimmings. [4] When no quantity is given, the weekly sales were less than one-twentieth of an ounce per person. [5] Including all special rations. [6] Approximately. [7] Excluding fruit, curd and mince meat.

[8] Including tea, cake and buns.

The actual purchase of rationed bacon per person per week must, therefore, be taken as approximately 20 per cent less than suggested by the figures in Table I. An adjustment for wastage of the corresponding prices per lb would increase these by about 10 per cent. It thus appears that the average quantity of rationed bacon purchased from the grocery shops per person per week during the ration period from June 27 to July 24, 1943 (columns G and H), was between 3.9 and 4 ounces, at a price per lb of about 1s. 11¼d., as compared with an average of 3.8 ounces at a price per lb of 2s. 0¼d., consumed by the households that kept accounts for the Institute.

Consumption of tea per person per week is under-estimated in the data referring to the turnover of the grocery shops by probably some 20 per cent, since part of the tea ration is obtained from specialist shops and, also, from greengrocers that of all rationed foods only sell tea. Actual average consumption per person per week—including children under 5 years old, whose tea ration was abolished from July 27, 1942—might be estimated at 1.8 ounces.[1]

In comparing the figures referring to the consumption of groceries by working-class households with those derived from the turnover of the shops for about the same period, it must also be borne in mind that the purchases from the grocery shops of sausages, cake, and flour, are largely supplemented by purchases from butcher and baker. The 50 per cent higher consumption of shell eggs by the working-class households reflects the fact that our sample of working-class families contained a relatively high proportion of young children, whose allowance of eggs is twice the ordinary ration. A special allowance of half a pound of sugar per person per week for two weeks was granted from July 11, 1943 ; this accounts for the figure of 12.2 ounces, referring to the turnover of the shops, as against an average of 9.2 ounces consumed by the working-class households, most of which concluded their accounts before the special allotment had started.

These points should also be remembered when turning to the data of outlay in Table II. It will be found that the average expenditure on groceries in June—July 1943, whether assessed from the household accounts covering 968 persons or from the data of turnover of shops serving about 2 millions, can be fixed between quite narrow limits, in the neighbourhood of 4s. per person per week. This appears to have been the weekly outlay throughout 1943, while in 1942 it was a little less, largely because for a number of items the average prices paid were lower.

Yet it must be understood that this increase in the prices paid was not always due to a rise in the standard prices, though it will be seen from the data in Table III that these latter did, indeed, increase for a number of foods in the course of the two years. The one noteworthy decline in the official prices was that of the price of eggs, which actually was steeper than is suggested by the figures in Table III, if we take into

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[1] Since the relative numbers of customers for bacon and tea respectively, as compared with the numbers of registered customers for sugar and fats, do not seem to vary to any noticeable extent, no special account need be taken of the differences in the actual numbers in our comparison of the sales per registered customer at different dates.

TABLE II

Expenditure on Various Types of Groceries

(Per Person per Week)

Sales of Grocery Shops

	1942 11.1/7.2	1942 28.6/25.7	1943 10.1/6.2	1943 27.6/24.7	1943 14.11/11.12	1943/4 12.12/8.1	Institute Budgets 1943 June-July
	d.	d.	d.	d.	d.	d.	d.
(*a*) Fats	5½	5½	5¾	5¾	5½	5¾	6
(*b*) Protein Foods	13½	16½	18	15¾	15¾	17½	16½
(*c*) Carbohydrate Foods	6½	6¼	8	7½	8½	7½	11¾
(*d*) Tea	3¾	3½	3½	3¾	3¾	3¾	4
(*e*) Sundries*	9¾	9½	10¼	11¼	10¼	11¾	11
(*a*)—(*e*)	39	41¼	45½	44	43¾	46¼	49¾

*Including tinned foods, cereals, rolled oats and oatmeal, dried legumes, dried fruit, syrup, cocoa, coffee, fancy foods, and condiments.

TABLE III

Ministry of Labour Index Prices

		Jan. 1, 1942	Price Changes *	
				New Price
		d.	Date	d.
Butter	℔	19	15/11/42	20
Margarine, standard	℔	5	—	—
Ditto, special	℔	9	—	—
Bacon	℔	20½	26/10/42	22½
Cheese	℔	13	—	—
Eggs, shell	1 egg	2¼—2½	30/3/42	1¾—2
Sugar	℔	3	19/9/43	4
Flour	℔	2¼	18/10/42	2½
Tea	℔	30	24/1/43	34 †

* Authorised by Government Orders.

† The Ministry of Labour index gives an increase of 1¾d. on Feb. 1, 1943, and allows for the full increase of 4d. only from Mar. 1, 1943.

account the issue of dried eggs, which up to June 26, 1943, cost 1¾d. per egg, and 1¼d. after that date. On the whole, however, there seems to exist a very distinct general tendency to buy high quality foods if they can be had. This is, for instance, clearly indicated in the high average price paid for tea, but the most striking proof of it is supplied by the sales of margarine, which now is practically only 'special' margarine. Many shops have, in fact, completely discontinued the 'standard' brand,[1] since there is no demand for it, although quite a number of them had repeatedly tried to popularize it by exhibiting it in their windows.

It cannot, therefore, be poverty that prevents people from buying their full fat ration. That this ration is not taken up in full is one of the most surprising findings of our analyses, and we had already occasion to remark on it in previous surveys. No one apparently foregoes part

[1] 'Standard' margarine cost 5d a ℔, and 'special' margarine 9d.

of the butter ration, since the sales of 2 ounces per person per week represent, throughout these two years, the full allowance. As registration for butter automatically entails registration for margarine and cooking fat with the same retailer, in the same way as registration for sugar entails registration for jam, it is not possible for people to buy part of their fat ration elsewhere.[5] The explanation is probably that people living in lodgings with little facilities for cooking cannot utilize their full fat ration. From the figures in Tables IV and V it will, indeed, be discovered that when the allowance surpasses a certain minimum, people buy less than they could do even of essential and cheap foods.

TABLE IV

Sales of Sugar and Jam

(Per Person per Week)

	Ration		Bought	
	Sugar	Preservses*	Sugar	Jam
1942	oz.	oz.	oz.	oz.
11.1—4.4	8	4	8.0	3.0
5.4—25.7	8 or 12	4 —	9.2	2.4
26.7—22.8	12	4	12.0	2.5
23.8—3.4	8	4	8.0	3.5
1943				
4.4—26.6	8 or 12	4 —	9.1	2.6
27.6—24.7	12 or 16	4 —	12.2	2.6
25.7—18.9	8 or 12	4 —	9.3	2.4
19.9—13.11	8	8	8.0	6.2
14.11—11.12	8 or 12	8 4	9.9	4.0
1943/4				
12.12— 8.1	8 or 12	4 —	8.9	2.7

* Up to July 25, 1942, syrup and treacle were included in the preserves ration; after that date they were rationed on points.

TABLE V

Sales of Cheese

(Per Person per Week)

	Ord. Ration	Bought*
1942	oz.	oz.
11.1—30.5	3	3.0
31.5—25.7	4	3.7
1942/3		
26.7—9.1	8	4.7
1943		
10.1—6.2	6	4.5
7.2—1.5	4	3.8
1943/4		
2.5—8.1	3	3.1

* Including special rations for heavy workers and vegerarians.

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[5] Except on temporary ration cards. But our sample is so large that the numerical effect of this must be insignificant.

As regards sugar, it seems, however, possible that housewives do not always know when they can exchange their jam ration for sugar. This would explain the gaps between the possible and the actual purchases of this much desired food, after making allowance for the magnitude of the purchases of jam.

The very steep decline in what may be termed the ' marginal demand ' for cheese in response to increases in the cheese ration is particularly striking, since cheese is an exceptionally cheap and handy protein food.[1] On the other hand, the data in Table VI relating to the sales of dried eggs and dried milk will scarcely cause surprise, for it is well known that many housewives do not buy their full rations of these foods. Our figures show that even when demand reached its highest point it lagged much behind the potential purchases. In December 1943, when a tin of dried milk was allowed per person every 8 weeks, and a packet of dried eggs every two weeks, the actual purchases of milk were one tin every 17 weeks, and of eggs one packet every 10 weeks.

TABLE VI

Purchases of Dried Egg and Household Milk
Number of Weeks corresponding to Purchases of 1 *Tin* per Person*

1942	Eggs	Milk†
Jan.—June	—	55
July—Dec.	17½	40
1943		
Jan.—June	15⅔	20
July—Dec.	12	25

*1 tin of dried eggs equals 12 eggs ; 1 tin of dried milk equals 4 pints of fresh skimmed milk.

† Approximately.

The purchases from the grocery shops of flour, cake, and biscuits, are set out in Table VII. The sudden falling off of the sales of flour virtually coincides with the prohibition of the manufacture of flour of less than 85 per cent extraction, which came into force on March 23, 1942. It will be seen that this steep decline, by about 58 per cent,

TABLE VII

Sales of Flour, Cake and Biscuits

(Per Person per Week)

	Flour	Cake	Biscuits
	oz.	oz.	oz.
Av. 1941	7.4	1.5	1.7
1941-2			
14.12—4.4	7.4	1.5	1.7
1942			
5.4—2.5	4.3	1.5	1.8
3.5—12.12	4.3	1.7	2.0
1942-3			
13.12—11.12	4.3	1.9*	1.4†
1943-4			
12.21— 8.1	4.5	1.9	1.0

* Average, first half of the year, 2.0 oz. ; second half, 1.8 oz.

† Average, first half of the year, 1.8 oz. ; second half, 1.0 oz.

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[1] If everyone always took his full ration irrespective of its size, this 'marginal demand' would, of course, be unity.

TABLE VIII

Nutritional Values and Expenditure

		Indices of			% of Total		
		Calories	Protein	Outlay*	Calories	Protein	Outlay
(*a*) *Fats :*							
1942	1st Half	*100*	—	*100*	31.5	—	20.8
	2nd Half	102	—	101	30.3	—	18.4
1943	1st Half	102	—	106	30.8	—	18.7
	2nd Half	101	—	104	31.0	—	19.1
(*b*) *Protein Foods :*							
1942	1st Half	*100*	*100*	*100*	28.1	67.7	54.1
	2nd Half	119	127	120	31.7	74.9	57.4
1943	1st Half	115	119	123	31.3	73.7	56.4
	2nd Half	105	105	114	28.9	74.1	54.3
(*c*) *Carbohydrate Foods :*							
1942	1st Half	*100*	*100*	*100*	40.4	32.3	25.1
	2nd Half	99	89	109	38.0	25.1	24.2
1943	1st Half	97	89	117	37.9	26.3	24.9
	2nd Half	101	77	120	40.1	25.9	26.6
Groups (*a*)—(*c*)							
1942	1st Half	*100*	*100*	*100*	100.0	100.0	100.0
	2nd Half	105	115	113	100.0	100.0	100.0
1943	1st Half	104	110	118	100.0	100.0	100.0
	2nd Half	102	96	113	100.0	100.0	100.0

Nutritional Values Bought per Person per Week

		Calories	Protein	Outlay (pence)
Groups (*a*)—(*c*)				
1942	1st Half	5,510	84	26
	2nd Half	5,800	96	29¼
1943	1st Half	5,710	92	30½
	2nd Half	5,620	81	29¼

* In round figures.

was not simply an intitial phenomenon, but that demand at once, and for good, settled down at this lower level. The purchases of cake and biscuits are, of course, essentially determined by the supply of these foods. From June 1943 the production of biscuits was halved, with the result that the sales of biscuits of the grocery shops fell from 1.8 ounces per person per week during the first half of the year to one ounce during the second half.

Table VIII considers the expenditure per person on the three main food groups and the nutritional values purchased with it. The data for the several food groups are expressed as index figures, with in each instance the values for the first half of 1942 as 100.[1] For the fat group, the fluctuations of the indices are slight. The index of expenditure of this group has risen mainly in consequence of the rise in the price of butter, while the minor variations in the index of calorific value reflect the slight changes in the quantities purchased of margarine and cooking fat. The index of calorific value has also remained fairly stable for the carbohydrate group, while, for that group, a sharp upward movement of the index of expenditure is accompanied by an even sharper decline of the protein index. This illustrates strikingly the effects of, on the one hand, the reduced demand for flour, which is a cheap calorific food and, besides, a good source of vegetable protein, and, on the other hand, the increased supply of and expenditure on sugar and, also, jam, which are void of protein. The price index of this group is further affected by the rise in the price of sugar from 3d. to 4d. a lb., from September 19, 1943. The most complex group is that of the main protein foods. In spite of the variety of foods which it comprises and the changes in the quantities bought, its indices for protein and calories move in fairly close agreement, except in the second half of 1942, when the exceptionally large allowance of cheese increased the protein value of that group relatively more than its calorific value. Since cheese is a particularly inexpensive protein food, the index of outlay for this half-yearly period lags behind the protein index by nearly 6 per cent.. With the reduction of the cheese ration this movement was reversed, and the increased consumption of dried eggs did not halt the upward swing, since, even at a price of 1¼d. per egg, eggs are about twice as expensive a protein food as cheese.

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[1] Some comparative data for 1941 are given in the Appendix.

In the lower part of Table VIII the actual outlay on the three main food groups is compared with the corresponding nutritional values; it thus supplies the means for translating the index figures into concrete data. If we suppose that the outlay on the 'sundries' group (*cf.* Table II) purchases nutritional values in proportion to the total outlay on fat foods, protein foods, carbohydrate foods, and tea—which it seems a reasonable assumption to make—we can increase the nutritional values obtained from the groceries by about one-third. It would thus appear that the average weekly purchases per person of groceries supply about 3 days' standard requirements of calories and 2 days' standard requirements of protein.

T. SCHULZ.

APPENDIX

The approximate figures of expenditure on the main groups of groceries per person per week in 1941 and of the nutritional values bought, are

TABLE A

Expenditure and Nutritional Values in 1941

(Per Person per Week)

	Outlay	Calories		Protein	
	d.		%	grammes	%
(*a*) Fats	5¾	1,856	32	—	—
(*b*) Protein Foods	13¼	1,450	25	51	61
(*c*) Carbohy. Foods	7	2,494	43	32	39
(*d*) Tea	3¾	—	—	—	—
(*a*)—(*d*)	29¾	5,800	100	83	100
(*e*) Sundries	11				

shown in Table A. It is not possible to present a similar set of figures for 1940, since the sample obtained by us for that year does not cover quite the same ground. The data in Table A are yearly averages. They can be compared with the half-yearly figures for 1942 and 1943 in Table VIII, and, as regards outlay, also with the figures for the corresponding groups in Table II, which latter Table, however, only refers to sample weeks. It will be found that the outlay on all groceries in 1941 differs little from that during the first half of 1942; but while the calorific value of the foods bought was slightly higher in 1941, their content of first-class protein was, on the average, about 10 per cent less.

EXCESS PROFITS TAX AND POST-WAR RE-EQUIPMENT

Whether industry will have adequate financial reserves under a system of Excess Profits Tax to carry out the re-equipement for peace-time needs has been much discussed. The following article by Mr. Kalecki discusses this important question and shows: (a) that in spite of E.P.T. no problem would arise if prices had remained unchanged during the war; for any depreciation not made good would then accrue in the form of free liquid reserves sufficient to restore real capital; (b) that the actual rise of prices during the war leads to certain deficiencies of firms' own reserves for re-equipping plants after the war.

After estimating the order of magnitude of this deficiency for British industry Mr. Kalecki explains that part of the gap will be filled by refunding of the 20 per cent. E.P.T. rebate in the reconstruction period, and that the remainder can comfortably be covered by capital issues.

On this analysis there would seem to be no strong case for a modification of E.P.T. to meet industrial needs now or in the immediate post-war period. THE EDITOR.

It is frequently maintained that as a result of the Excess Profits Tax industry will have at the end of the war inadequate reserves to finance the reconstruction of equipment. The purpose of this note is to analyse this problem.

1. Let us first consider for the sake of argument the situation which would arise if prices during the war were stable. In such a case industry *would* accumulate sufficient reserves for post-war investment. For depreciation allowances which are not invested in replacement during the war accumulate to the extent which is just necessary to carry out the replacements after the war. Where firms reduce their stocks and working capital they receive instead the money equivalent just sufficient to restore the stocks and working capital to their pre-war level. Finally, war damage is covered fully by compensation. Thus if prices were stable E.P.T. would not interfere with reconstruction.

It may be objected that firms might have invested their reserves during the war in equipment designed for specific war purposes and thus have used up the reserves necessary to bring their equipment into shape for peace-time work. However, most investment of this type is financed by the Government and thus does not make any claim upon the reserves of industry. And where such investment is financed by firms they will usually be able to recover its value after the war—to the extent to which it will be useless for peace-time work—through the refunding out of Excess Profits Tax paid (as is foreseen in the E.P.T. regulations).

2. The actual position will differ essentially from this imaginary case because prices have increased considerably since the beginning of the war. This affects adversely the adequacy of reserves available for post-war reconstruction. Firstly depreciation allowances are calculated on purchase cost basis. Thus wear and tear etc. made good during the war or to be made good after the war is not accounted for at its replacement cost. Now the total business depreciation as measured by Inland Revenue may be estimated at something like £250 million per annum.[1]

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[1] The Schedule A allowances were in 1938, £138 million and the wear and tear allowances—£157 million. However, a substantial part of Schedule A allowances relates to houses used personally by the owners.

The average prices of equipment in war years were probably higher than the peace-time level by something of the order of 50 per cent. The post-war prices may be assumed at about the same level (there will probably be some cheapening as compared with the present level which is higher than the 1940—43 average). Thus the deficiency of depreciation as compared with replacement cost may be guessed at something like 50 per cent. of £250 million, or £125 million per annum. However, according to the White Paper (Cmd. 6348) undistributed profits (after deduction of the excess of tax liabilities over tax payments) averaged £180 million per annum in 1940-42 and probably have been accruing at a similar rate since the end of 1942. This covers the above deficiency with an excess of about £50 million which provides a margin for the possible underestimate of depreciation by Inland Revenue standards.

The running down of stocks and working capital does not present the same difficulties as depreciation. For these stocks are sold at current price and the post-war price will probably not differ very much from the average price at which stocks were liquidated. (The present price is higher than this average but some fall in prices may be expected after the war). The effect of the war-time price increases on making good war damage will not introduce any complications either. The compensation for stocks and ships is based on the insured values. Repairs carried out in war-time are refunded on the basis of current costs. Finally it seems to follow from the wording of the 'Statutory Rules' that the compensation for damage in fixed capital will probably be paid after the war on the basis of something approaching replacement costs.

Thus it might seem that the unused depreciation funds and undistributed profits accumulated during the war, and compensation for war damage, will provide industry with financial means adequate for the purpose of post-war restoration of fixed and working capital to its pre-war level. But in fact we still have left out of account the influence of price increases upon the valuation of inventories, which makes the situation less favourable than has been presented above.

Since inventories are valued at purchase cost and are usually turned over within a few months, the value of an inventory which is unchanged in volume increases in value *pari passu* with prices. The increase in the value of inventories due to the rise in prices inflates profits and *is* contained in the undistributed profits figures quoted above. However, this part of undistributed profits is not available as a reserve. If a firm maintained its inventory stable in *volume* through the war and as a result the *value* of the inventory showed an increase of, say, 50 per cent, this does not mean that at the end of the war it has a reserve equal to this increase because this profit will be fully invested in stocks or working capital. Thus the financial reserves of firms available for post-war investment when calculated from undistributed profits must be adjusted (downwards) by the increase in the value of inventories as a result of the rise in prices from the beginning to the end of the war. According to Mr. Barna this appreciation of inventories amounted from the beginning of 1940 to the end of 1942 to about £450 million.[1] To this appreciation 1942 contributed only a little (£30 million) owing to the almost complete stabilisation of prices. The appreciation of inventories from the end of 1942 till the end of the war will probably be small for the same reason, and we may estimate the total appreciation from the beginning to the end of the war at £500 million.

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[1] *Economic Journal*, June—September 1943, p. 264. This estimate is perhaps too high. If such were the case this would reinforce the conclusions arrived at below.

3. We see that if firms were to attempt to finance industrial reconstruction *entirely out of reserves accumulated in war-time* there would be a deficiency estimated at £500 million. There are, however, three possible additional sources for financing the post-war re-equipment of industry : (1) Current profits in the period of reconstruction, which will last for some years. (2) Refunding of 20 per cent. of E.P.T. paid since the beginning of the financial year 1941/1942. (3) Issue of shares or debentures.

If E.P.T. continues during the reconstruction period—which is quite likely if this period overlaps with the war in the Far East—no contribution towards financing of re-equipment can be expected from current profits. For undistributed profits (after deduction of the excess of tax liabilities over tax payments) would then accrue at a similar rate as during the war, and this as we saw (p. 59) is just enough to cover the difference between current depreciation on the basis of replacement and purchase cost.

Let us consider in turn the refunding of 20 per cent of E.P.T. The E.P.T. payments from the beginning of 1941-42 to the end of 1943-44 may be estimated at about £1,100 million, out of which the yield in 1943-44 is about £480 million. As E.P.T. is collected with a yearly time lag, collection of war-time E.P.T. may be expected to continue at least till the end of 1945-46 and the yield will be probably not much different from that of 1943-44, i.e. £480 million per annum. It follows—taking into account that E.P.T. will probably continue even longer—that the *minimum* basis for 20 per cent refunding may be assumed at £2,000 million and thus the amount refunded would be at least £400 million. If the 10s. in the £ income tax is in existence at the time of refunding this means a contribution of more than £200 million to the financing of re-equipment, which reduces the deficiency from £500 million to less than £300 million. It is hardly necessary to say that these figures are very rough estimates which indicate only the order of magnitude of the amounts involved.

4. So far we have considered only firms' ' internal ' sources of financing their post-war re-equipment. It is, however, quite normal for part of the capital expenditure of enterprises to be financed by the issue of shares and debentures to the general public. For instance, in the two-year period 1935-36 new industrial issues amounted to £300 million, i.e. they were of the same order as the ' deficiency ' of internal sources to finance the post-war re-equipment. Now the accumulation of personal savings from the beginning of the war till the end of 1944 will amount to something like £4,000 million, while capital issues have been prohibited during the war. It may be assumed that some part of this enormous sum will tend to be invested in post-war capital issues on terms acceptable to industry.

It may be asked perhaps who will then buy the Government securities which savers will have to sell in order to buy industrial shares. This question does not differ in substance from the question who will buy the

Government securities which firms will have to sell to mobilise their reserves for financing the re-equipment. Now the carrying out of investment always creates automatically enough saving to finance it. As may be seen, for instance, from the balance sheet of national income and expenditure given in the White Paper ' An Analysis of War Finance and an Estimate of National Income and Expenditure,' there is always just enough savings (including in them the excess of tax liabilities over tax payments) to finance private investment and the excess of home financed Government expenditure over revenue. In order, however, to give a concrete reply to our question this general rule must be applied to the probable post-war situation.

Private investment, as assumed above, will exceed the current depreciation allowances *plus* current undistributed profits. Personal savings may well be zero or even dissaving may take place. (This state of affairs will not cause inflation if there is a corresponding shift of resources from war production to civilian uses.) It follows from our formula that a surplus of tax revenue over home financed Government expenditure will arise—i.e. the Government itself will re-purchase Government securities. If the Government in this situation reduced taxes while keeping the value of investment and consumption at an unchanged level by controls and rationing to prevent inflation, this surplus would fall but the savings of firms and persons would increase correspondingly and enable them to finance more private investment.

5. The above considerations suggest that financial reserves accumulated during the war, the refunding of 20 per cent of excess profits tax paid, compensation for war damage, and post-war capital issues, will provide an adequate basis for financing post-war re-equipment. In spite of E.P.T. (even if it were to continue in the reconstruction period) industry *as a whole* is not likely to encounter difficulty in financing its post-war investment programme.

The problem appears more complicated when we consider particular *sections* of industry. Financial reserves will not in general be distributed among these sectors according to their needs for re-equipment. The latter will be greatest in consumption goods industries while at the same time many firms in those industries might have had during the war profits below the ' standard ' level. The financial position of such firms is disadvantageous for two reasons : (1) their accumulation of reserves compares unfavourably with firms with higher profits ; (2) as they did not make any excess profits and thus did not pay E.P.T. they will not share in the 20 per cent refunding. It should be noted that the relatively unfavourable position of the firms in question is not due to the existence of E.P.T. (by which these firms are not affected) but is the result of the war-time reduction in output of consumption goods.

The difficulties resulting from the distribution of financial reserves of particular sections of industry out of proportion with their needs should not, however, be exaggerated. Capital issues will probably be adequate in most cases to carry out the necessary redistribution of financial reserves. For medium and small firms which have no access to the capital market it may, however, be necessary for the Government to provide cheap longer-term credit in certain cases. M. KALECKI.

CINEMA DUTIES, CONSUMPTION AND PRICES

Tax yields from Entertainments Duty have risen exceptionally steeply during the war, whether we compare them with other major items of indirect taxation (Table I) or with direct taxes. But although gross receipts from Entertainments Duty quadrupled in the first four years of war, total revenue from this source is still very small compared with revenue from beer and tobacco, partly because total expenditure on taxable entertainments is considerably smaller than that on beer or tobacco. Among the variety of entertainment duties, revenue from cinemas tops the list producing since 1940 almost 90% of this group of taxes.

This note tries to estimate how far changes in cinema duties reflect changes in cinema consumption or changes in exhibitors' price policy. In the case of beer and tobacco the quantities consumed are directly available (Table II) ; in the case of cinemas we have mere hints for the war period, but a very thorough analysis of the peace-time price and demand structure by Mr. S. Rowson.[1] These two sources can be combined to throw some light on the development of admissions to cinemas at various price ranges.

We have the following data : (*a*) the percentage distribution of admissions[2] at various price ranges for 1939, (*b*) the rates of tax for each price groups for each year, and (*c*) the number of admissions. These data can be used to construct a tax index by weighting tax per seat at each admission price by the proportion of total admissions in 1939. The table below gives the tax index thus computed; and the index of total tax receipts from cinemas based on information supplied by the Inland Revenue Authorities (Table III).

The growing discrepancy between the two series is partly due to the increasing number of admissions, but may also reflect a change in the proportion of admissions at the various gross prices. Since April 1942 there have also been increases in exhibitors' net price.[3] Admissions in 1941-2 were 47 per cent. more numerous than in 1939-40 (see Table IV) and the index for that year can be raised to 236 by allowing for this factor. No analysis is available of the actual proportions of admissions at each price in the war years, but the Chancellor of the Exchequer gave some clues in his Budget Speech in 1942. He said that about 5 per cent of tax revenue came from seats costing 7d. or less (gross), that 90 per cent of all admissions were at prices of 1s. 6d. or less, and that total admissions numbered about 1,400 million. Using these figures, and assuming that the distribution *within* each of the three main groups given by the Chancellor followed the 1939 pattern, we obtain Estimate A of Table V. Estimate C is based on the assumption that all seats in the lowest price groups were sold at 7d., an assumption which necessarily gives the lower limit of the number of admissions in this price range (Table IV). Somewhere between 12 and 18 per cent.[4] of the 1,400 million admissions are therefore at prices between 7d. and 4d. inclusive, and since we know that about 10 per cent are at prices of 'over 1s. 6d.', the intermediate range of admission prices (9d. to 1s. 6d. inclusive) *plus* untaxed admissions at 2d. and 3d. must account for 72 to 78 per cent of total admissions.

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[1] Journal of the Royal Statistical Society, 1936.

[2] Supplied by Mr. Rowson from material yet unpublished.

[3] *Cf. Kinematograph Weekly*, 30/4/42 and 22/4/43 for exhibitors' net increases.

[4] As against 43.6% in 1939. Corresponding numbers are 168 million (1941) and 415 million (1939).

Various hypotheses as to the more finely graded distribution of admissions are possible within these limits. They can be tested by using them as weights in the construction of tax revenue indices, as before, for they will now *include* the effect of the rise in total admissions. In Table IV every estimate is based on the assumption that within each class range the distribution is still comparable with that in 1939. In estimate *A* it is further assumed that the proportion of untaxed seats is unchanged This gives the index of 236, which is low. Estimate *B* asumes that *no* untaxed seats (under 4d.) were sold ; this raises the percentage in the intermediate class (9d. to 1s. 6d.) by 4.4 per cent and the index becomes 244 In estimate *C* the assumption is made that the lowest gross price was 7d. ; this raises the percentage in the intermediate group to 78 and the index to 254.

In order to test our asssumption that the 1939 distribution of seats was maintained in the two years, estimate *C* was modified as follows : within the intermediate group the whole increase was allotted to the 9d. seats, the percentages at 1s., 1s. 3d. and 1s. 6d. being assumed identical with those in 1939. But the resulting index was 225 ; if the increase was allotted wholly to the 1s. seats the index becomes 255 and if to any of the higher ranges, it rises still further. Our main assumption seems reasonable, therefore, and the limits of probable distribution in 1941-42 are given by estimates *B* and *C*.

This rise in admissions is estimated[5] at a further 10% in 1942-43. Applying these weights for 1941-42 to the next tax scale of 1942-43 and allowing for this we obtain a tax index of 312 to 347 on estimates *B and C* respectively. The corresponding index of actual receipts is 484, so admissions at the higher prices are still rising in comparison with the others. The result is confirmed by an unofficial estimate, given for the whole country,[5] that only about 65 per cent. (as against 90 per cent in 1941-42) of admissions were at 1s. 6d. or less in 1942-43. This remarkable shift to higher priced cinema seats is the effect both of changes in price policy and seating plans on the part of the exhibitors, and of rising incomes. It accompanies a rise above the 1939 level of about 65 % in the total number of admissions.

P. ADY.

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[5] Cinematograph Exhibitors Association (Portsmouth branch) meeting, April 1943

TABLE I

Gross Receipts from Major Items of Indirect Taxation

1938/39—1942/43

£ million

	1938/39	*1939/40*	*1940/41*	*1941/42*	*1942/43*
Beer	66	79	139	164	218
Tobacco	85	118	173	221	331
Purchase Tax ...	—	—	26	99	110
Entertainment duty	8	7	9	16	31
Of which receipts from cinemas ...	5.6	5.6	7.8	13.9	27.0

TABLE II.*

Consumption of Mass Luxuries.

	1938	*1939*	*1940*	*1941*	*1942*
Tobacco Consumption (million lb.)	189.4	199.0	191.0	236.0	229.0
Beer Consumption (million bulk barrels)	25.0	26.5	26.5	30.0	—
Cinema Admissions (millions)	—	953	1,140	1,400	ca. 1,500

*Adapted from J. Goldmann, BULLETIN Vol. V, No. 2.

TABLE III.

Indices of Tax revenue from Cinemas, calculated and actual.

Index Numbers	*1939/40*	*1940/41*	*1941/42*	*1942/43*	*1943/44*
Tax Rates*	100	130	160	194	232
Do. corrected for No. of admissions	100	156†	236	330	—
Total tax receipts (actual)	100	140	248	484	—

* Assuming 1939 number and distribution of admissions, unadjusted for changes in the ticket price level at which duty begins.

† High because of fall in admissions in 1940.

TABLE IV.

The Distribution of Admissions.

Gross admission price	*% of total admissions*				
	1934	*1939*	*1941/42*		
			A	B	C
Less than 4d.	3.6	4.4	4.4	—	—
4d. and 5d.	8.5	6.3	4.0*	4.0*	—
6d.	9.0	32.9	13.2	13.2	—
7d.	18.0	—*	—	—	11.8
9d.	16.3*	15.64	19.8	21.0	22.7
1/-	21.2	24.6	31.4	32.9	35.9
1/3	5.0	6.4	8.2	8.7	9.4
1/6	10.0	7.1	8.9	9.4	10.2
2/-	2.6	1.7	6.3	do.	do.
2/6		0.7	2.4		
3/6	1.9	0.3	1.1		
6/-		0.06	0.2		
Tax Rates Index	—	*100*	*236*	*244*	*254*

*Level at which duty begins.